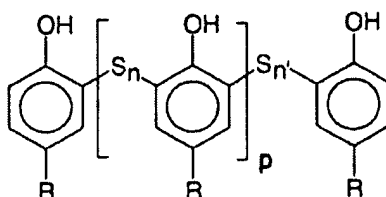


## SUBSTITUTE SPECIFICATION

## CLAIMS

1. A sulfur-donor vulcanizing agent comprising the  
 5 combination of:  
 - 10 to 90% of a product (I) consisting of a mixture of  
 poly(alkylphenol) polysulfides of formula:



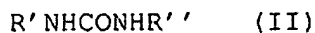
(I)

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in which:

- R is an alkyl radical having 1 to 20 carbon atoms,
  - n and n' are two integers that are identical or  
 15 different, each being greater than or equal to 1  
 and less than or equal to 8,
  - p is an integer between 0 and 50, and
- from 10 to 90% of a compound of formula (II)

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in which R' and R'' that are identical or different,  
 each represent a hydrogen atom or an alkyl or aryl  
 radical having 1 to 20 carbon atoms.

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2. The vulcanizing agent as claimed in claim 1,  
 characterized in that a product of formula (I) is used  
 in which R is an alkyl radical having 4 to 10 carbon  
 atoms, n and n' are each greater than or equal to 1 and

**SUBSTITUTE SPECIFICATION**

less than or equal to 4, and p is an integer between 0 and 20.

3. The vulcanizing agent as claimed in either of  
5 claims 1 or 2, characterized in that a compound of formula (II) is used in which R' and R'' represent an alkyl radical having 1 to 3 carbon atoms.

4. The vulcanizing agent as claimed in either of  
10 claims 1 or 2, characterized in that the compound II is urea.

5. The vulcanizing agent as claimed in one of claims 1 to 4, characterized in that a mixture is used of  
15 compounds of formula (I) in which R is an alkyl radical having at least one tertiary carbon by which R is linked to the aromatic nucleus.

6. The vulcanizing agent as claimed in claim 5,  
20 characterized in that R is a tertio-butyl or tertio-pentyl radical.

7. The vulcanizing agent as claimed in claim 6,  
characterized in that the mixture of compounds of  
25 formula (I) is such that the average value of n and n' is approximately 2, and the average value of p is approximately 5.

8. A method for vulcanizing an elastomeric  
30 composition of the EPDM type presenting no risk relative to nitrosamines, comprising the incorporation of an effective quantity of the vulcanizing agent as claimed in one of claims 1 to 7 in the vulcanizable elastomeric composition.

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**SUBSTITUTE SPECIFICATION**

9. The vulcanization method as claimed in claim 8, characterized in that the elastomeric composition incorporates as an elastomer one or more terpolymers of ethylene, propylene and ethylidene norbornene.

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10. The vulcanization method as claimed in either of claims 8 or 9, characterized in that the effective quantity of vulcanizing agent is between 0.4 and 6 parts by weight, preferably between 0.8 and 3 parts by weight, per 100 parts by weight of elastomer.

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